

BRYANT®

Occupancy Sensors
Energy Savings Solutions



BRYANT®
WIRING DEVICES

BRYANT® Occupancy Sensors

Smart Technologies for Smart Buildings



BRYANT® Occupancy Sensors combine innovative technologies for industry proven performance.

Adaptive Technology

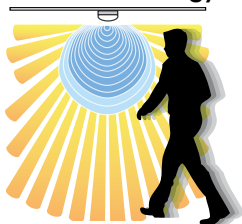
Adaptive Technology is a BRYANT delivers benefits to both building owners and occupants. The building owner achieves reduced energy costs, fewer adjustments and less maintenance, and the building occupant experiences fewer false-offs and disturbances.



Adaptive technology occupancy sensors use microprocessors that make all the decisions for setting adjustments. Internal software constantly monitors the controlled area and automatically adjusts the sensitivity and timer based on environmental history. Instead of manually adjusting the sensor for seasonal changes, modified airflow, furniture layout or occupancy pattern changes, the sensor automatically adjusts itself. These automatic adjustments eliminate the need for multiple manual adjustments by maintenance personnel or outside contractors. BRYANT offers adaptive technology throughout its product offering—wall switches, ceiling and wall mount sensors—in conjunction with dual technology, ultrasonic and passive infrared products.

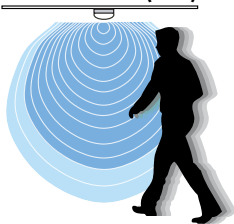
How to Select the Right Technology for the Proper Application

Dual Technology



Dual technology occupancy sensors combine both passive infrared (PIR) and ultrasonic (US) technologies for maximum reliability. Because US and PIR need to both detect occupancy to turn lighting on, dual technology sensors minimize the risk of lights coming on when the space is unoccupied—false triggering. Continued detection by only one technology then keeps lighting on as necessary. Dual technology sensors offer the best performance for most applications.

Ultrasonic (US)



Ultrasonic (US) technology senses occupancy by bouncing sound waves (32 kHz - 45 kHz) off of objects and detecting a frequency shift between the emitted and reflected sound waves. Movement by a person or object within a space causes a shift in frequency, which the sensor interprets as occupancy. While US occupancy sensors have a limited range, they are excellent at detecting even minor motion such as typing and filing, and they do not require an unobstructed line-of-sight. This makes US technology sensors ideal for an application like an office with cubicles or a restroom with stalls.

Passive Infrared (PIR)



Passive infrared (PIR) technology senses occupancy by detecting the movement of heat emitted from the human body against the background space. Unlike US technology, PIR sensors require an unobstructed line-of-sight for detection. These sensors use a segmented lens, which divides the coverage area into zones. Movement between zones is then interpreted as occupancy. PIR sensors are ideal for detecting major motion (e.g. walking), and they work best in small, enclosed spaces with high levels of occupant movement.

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BRYANT® Occupancy Sensors

Energy Savings with Occupancy Sensors



Typical Applications

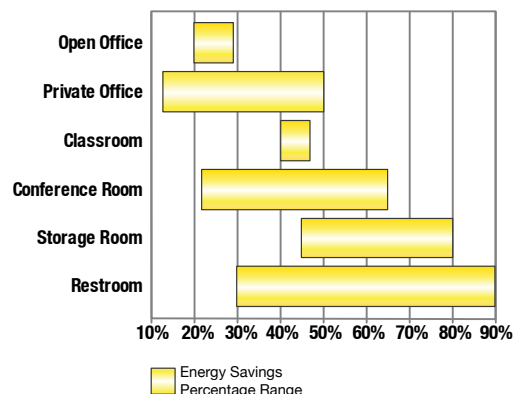
Applications are generalized. Consult your BRYANT representative for the type of technology and products that fit your needs.

Application		Sensor Technology				Sensor Style		
		Adaptive	Dual	Ultrasonic	PIR	Wall Switch	Ceiling	Wall
Office	Small	✓+	✓+		✓	✓+	✓	
	Large	✓+	✓+	✓			✓+	
Open Office		✓+	✓	✓+			✓+	
Storage/ Warehouse	Small				✓+	✓+		
	Large	✓+			✓+		✓+	✓+
Rest Room	Small			✓+	✓+	✓+	✓	
	Large	✓+		✓+			✓+	
Conference Room	Small	✓+	✓+			✓+	✓	
	Large	✓+	✓+				✓+	
Classroom	Small	✓+	✓+			✓+	✓	
	Large	✓+	✓+				✓+	
Hall		✓+		✓+	✓		✓+	✓

Bryant Occupancy Sensors Play a Key Role

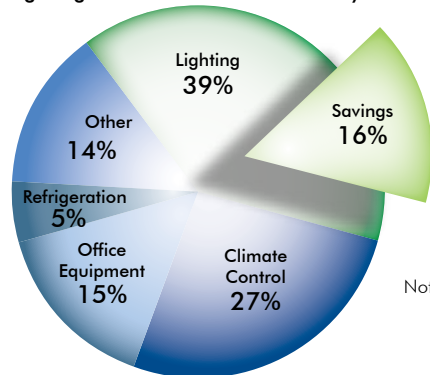
In the U.S., lighting consumes 22% of electricity and represents \$40 billion a year in energy costs. Using advanced technology, Bryant's Occupancy Sensors are doing their part to save energy and provide sustainability by automatically and effectively turning lights on when a room is occupied and off when a room is vacant. In a typical office building, where lighting accounts for 35 to 45% of energy use, Occupancy Sensors have the potential to reduce wasted lighting by 13 to 90% for a significant return on investment (ROI).

Bryant offers a broad range of occupancy and vacancy sensors and lighting controls that meet the latest codes and standards, including ASHRAE/IESNA 90.1 and California Energy Commission (CEC) Title 24. BRYANT® Occupancy Sensors can help gain LEED® points in categories like Sustainable Sites, Energy and Atmosphere, Indoor Environmental Quality and Innovative Design Process.



Electrical bill impact for a typical office building*

Lighting Uses 39% of Total Electricity



Note: * Energy Information Administration: Commercial Buildings Energy Consumption Survey
 ** Based on 40% lighting savings from sensors. Actual results may vary.

Application ROI Index



Based on average occupancy and installation complexity.

Eliminate energy waste and improve the bottom line.

Companies have always had to make tough decisions regarding resource allocation. In the past, energy consumption was often treated as a fixed overhead cost. With new regulations and the need for sustainable building design, this no longer holds true. Lighting is responsible for much of an office's electricity use, and occupancy sensors can provide significant energy savings by only lighting where and when it's needed.

Enhance reputation and maintain employee satisfaction.

Companies with LEED-certified facilities have a higher standing within their communities and among industry peers. LEED-certified work environments also result in higher levels of employee satisfaction and retention due to healthier, brighter working conditions. BRYANT sensors can help gain LEED points and illustrate a company's commitment to protecting the environment.

BRYANT® Occupancy Sensors

Adaptive Dual Technology Features



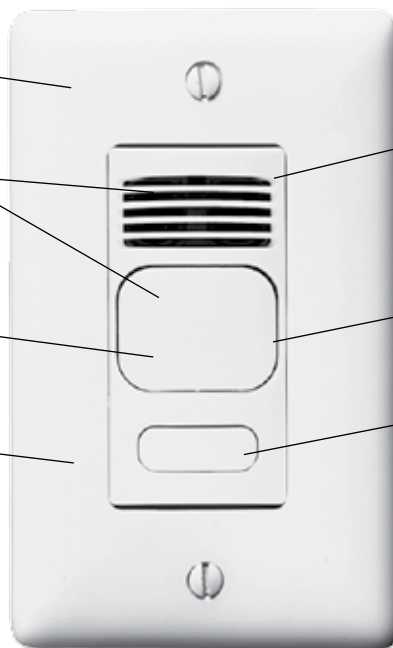
Adaptive Dual Technology Wall Switches

Available in ivory, white, light almond, black and gray.

Dual technology sensing combines the individual advantages of passive infrared and ultrasonic detection.

Impact resistant hard lens is standard and color matched to the switch.

Designed for use on 120V or 277V AC circuits. No neutral needed for fast retrofits.



Adaptive technology - "Install and forget" operation, analyzes environment and adjusts sensitivity and timer, eliminating the need for manual adjustment.

Built in photocell with manual super saver mode for daylight harvesting.

Auto or manual "On" operating modes. Available in either single relay or dual relay versions for enhanced savings with bi-level switching applications.

MSD1000W1

Adaptive Dual Technology Ceiling Sensors

Red LED indicates passive infrared detection.

Digital, crystal controlled ultrasonic transmitter and receiver for coverage in each direction for superior sensing of motion.

Off-white ABS enclosure blends with ceiling tile.



Green LED indicates ultrasonic detection.

Dual element passive-infrared detector and lens sense heat in motion.

MSD2000C

BRYANT® Occupancy Sensors

Wall Switches Featuring Adaptive Technology



Adaptive Technology

- Adaptive technology - "Install and forget" operation
- All digital sensing technology
- Dual 120/277V AC operation. No neutral required
- Auto or manual "On" operating modes
- No minimum load requirements
- Hard lens (dual technology, passive infrared)
- Zero arc point switching
- Built in photocell with manual super saver mode for daylight harvesting
- Bi-level switching or dual load control (MSD, MSP, MSU1000x2, 2N series)
- cULus, CEC Title 24 Certified
- Nylon wallplate included

Dual (Ultrasonic and Passive Infrared)

1,000 square foot coverage with photocell, 800W Incandescent, 1000W Fluorescent at 120V AC, 1800W Fluorescent at 277V AC, 50/60Hz

Description	Catalog Number	
	Ivory	White
Single circuit; 1 button for manual/auto control	MSD1000I1	MSD1000W1
Single circuit; auto control with no button	MSD1000I1N	MSD1000W1N
Dual circuit; 2 buttons for manual/auto control	MSD1000I2	MSD1000W2
Dual circuit; auto control with no button	MSD1000I2N	MSD1000W2N

Note: Sensors are also available in: LA (Light Almond), GY (Gray) or BK (Black These colors have minimum lead times. Please call Customer Service for further information. Wallplates are sold separately.



MSD1000W1



MSD1000W1N
MSD1000W2N

Ultrasonic

400 square foot coverage with photocell, 800W Incandescent, 1000W Fluorescent at 120V AC, 1800W Fluorescent at 277V AC, 50/60Hz

Description	Catalog Number	
	Ivory	White
Single circuit; 1 button for manual/auto control	MSU400I1	MSU400W1
Single circuit; auto control with no button	MSU400I1N	MSU400W1N
Dual circuit; 2 buttons for manual/auto control	MSU400I2	MSU400W2
Dual circuit; auto control with no button	MSU400I2N	MSU400W2N

Note: Sensors are also available in: LA (Light Almond), GY (Gray) or BK (Black These colors have minimum lead times. Please call Customer Service for further information. Wallplates are sold separately.



MSU400W1



MSU400W2

Passive Infrared

1,200 square foot coverage with photocell, 800W Incandescent, 1000W Fluorescent at 120V AC, 1800W Fluorescent at 277V AC, 50/60Hz

Description	Catalog Number		
	Gray	Ivory	White
Single circuit; 1 button for manual/auto control	MS1200ATGY	MS1200ATI	MS1200ATW

Note: *UL Listed only, not cUL.



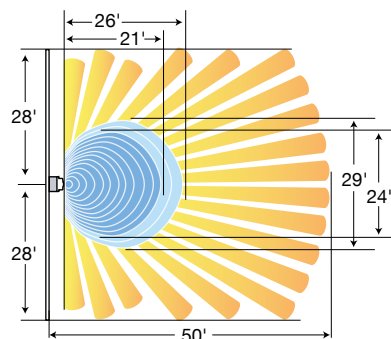
MS1200ATI



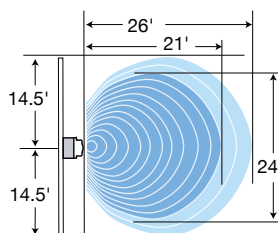
MS1200ATW

Coverage Patterns

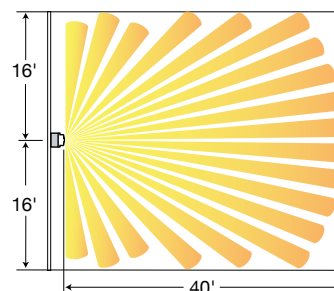
Minor Motion: ■ Ultrasonic ■ PIR Major Motion: ■ Ultrasonic ■ PIR



MSD1000 Series



MSU400 Series



MS1200AT Series

BRYANT® Occupancy Sensors

Wall Switches and High Bay Controls



Passive Infrared Wall Switches

- Passive infrared technology
- Manual adjustment time delay (MS1200 - 20 sec. to 30 min.) (MS900120/MS900277 - 30 sec. to 30 min.)
- Photocell (MS1200I, MS1200W)
- Bi-level switching (MSP2C)
- Wallplate included (MS1200 series only)
- No neutral required
- cULus, CEC Title 24 Certified

Description	Coverage	120V AC	277V AC	Color	Catalog Number
One button; 120/277V AC	1,200 sq. ft.	800W	1200W	Ivory White	MS1200I MS1200W
One button; 120V AC	900 sq. ft.	800W Incandescent 1000W Fluorescent	N/A	Ivory White	MS900120I MS900120W
One button; 277V AC	900 sq. ft.	N/A	1800W Fluorescent	Ivory White	MS900277I MS900277W
Double pole; 120/277V AC	1,000 sq. ft.	600W Incandescent* 1000W Fluorescent* *per circuit	1800W Fluorescent	White	MSP2C
Two-gang adapter wallplate for MSP2C to mount to a 2-gang box.					MSP2CAP



MS1200W



MS900120W



MSP2C

OPTIMYZER™ High Bay Controls

- Digital passive infrared (PIR) sensor
- Multiple (single and dual) output versions
- Single and dual timer operation
- Low-profile design
- Supports mounting heights up to 40 ft.
- Area and aisle coverage
- Universal voltage (120/277/347V AC) models available
- No minimum load

Standard

Description	Voltage	Catalog Number
Fluorescent High Bay PIR Sensor, 1 Relay	120-347V AC	MSHB21U
Fluorescent High Bay PIR Sensor, 2 Relays	120-347V AC	MSHB22U

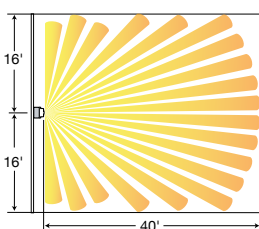


MSHB21U

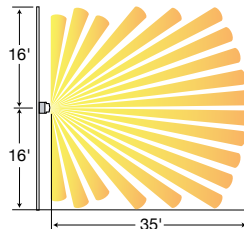
Coverage Patterns

Minor Motion: ■ PIR

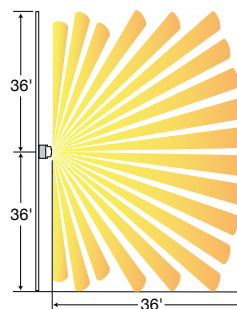
Major Motion: ■ PIR



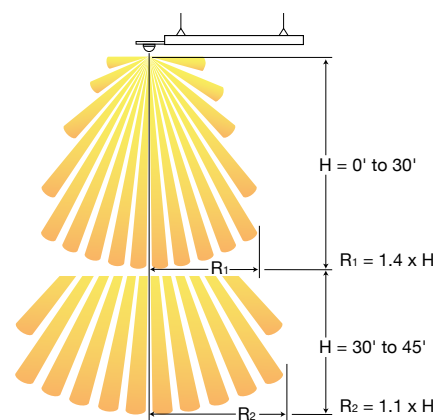
MS1200 Series



MS900 Series



MSP2C



MSHB21U

BRYANT® Occupancy Sensors

Residential Wall Switches and Digital Timer



Residential Occupancy and Vacancy Sensors - Passive Infrared

- Passive infrared technology
- Photocell equipped for daylight harvesting
- Occupancy: Auto-on, auto-off
Vacancy: Manual-on, auto-off
- Time delay adjustment, 30 seconds to 30 minutes
- Patent pending "alert to off" dims lights prior to going off (RMS101/121, RMS100/120)
- No neutral required
- Occupancy: cULus
Vacancy: cULus, CEC Title 24 Certified

Description	Coverage	120V AC	277V AC	Color	Catalog Number	
					Standard	Nightlight
Occupancy Sensor Switch with button; 150° view	800 sq. ft.	500W Incandescent only	N/A	Ivory White Lt. Almond	RMS101I RMS101W RMS101LA	RMS101LI RMS101LW RMS101LLA
Occupancy Sensor Switch with dimming; 150° view	800 sq. ft.	500W Incandescent only	N/A	Ivory White Lt. Almond	RMS121I RMS121W RMS121LA	RMS121LI RMS121LW RMS121LLA
Occupancy Sensor Heavy duty switch; 180° view	900 sq. ft.	800W Incandescent 1000W Fluorescent	1800W Fluorescent	Ivory White	RMS141I RMS141W	— —
Vacancy Sensor Switch with button; 150° view	800 sq. ft.	500W Incandescent only	N/A	Ivory White Lt. Almond	RMS100I RMS100W RMS100LA	RMS100LI RMS100LW RMS100LLA
Vacancy Sensor Switch with dimming; 150° view	800 sq. ft.	500W Incandescent only	N/A	Ivory White Lt. Almond	RMS120I RMS120W RMS120LA	RMS120LI RMS120LW RMS120LLA
Vacancy Sensor Heavy duty switch; 180° view	900 sq. ft.	800W Incandescent 1000W Fluorescent	1800W Fluorescent	Ivory White	RMS140I RMS140W	— —



RMS101W
RMS100W



RMS121W
RMS120W



RMS121ILW
RMS120ILW



RMS141W
RMS140W

Digital Timer Wall Switch

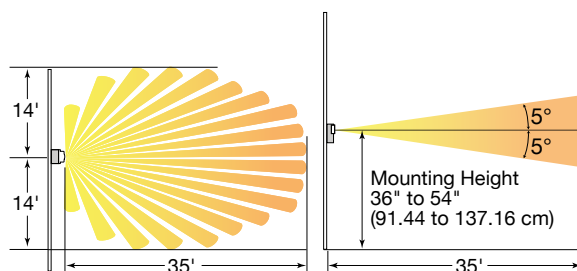
Description	120V AC	277V AC	Color	Catalog Number
Dip switch enabled preset intervals - 5, 15 or 30 minutes - 1, 3, 6, 9 or 12 hours Includes an on/off momentary push button switch feature	800W	1200W	White	DT12H



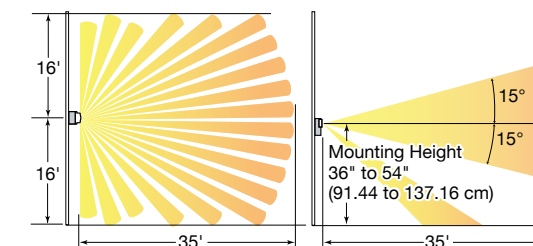
DT12H

Coverage Patterns

Minor Motion: ■ PIR Major Motion: ■ PIR



Horizontal Coverage
RMS101, RMS121, RMS100, RMS120



Horizontal Coverage
RMS141, RMS140

BRYANT® Occupancy Sensors

Ceiling Sensors Featuring Adaptive Technology



Adaptive Technology

- Adaptive Technology - "Install and forget"
- All digital sensing technology
- Mounting base included with sensor
- Non-volatile memory settings retained after power outage
- 24V DC, 33mA
- 32kHz (MSD/MSU500C - 40kHz)
- cULus, CEC Title 24 Certified



Dual (Ultrasonic and Passive Infrared)

Combines the excellent minor motion detection of ultrasonic with the outstanding passive infrared (PIR) long-range major motion detection

Coverage	Field of View	Color	Catalog Number
2,000 sq. ft.	360°	White	MSD2000C
1,000 sq. ft.	180°	White	MSD1000C
500 sq. ft.	180°	White	MSD500C

Note: All MSD ceiling sensors must use a MSCU series control units. See page 10 for details.



MSD2000C



**MSD1000C
MSD500C**

Ultrasonic

Excellent minor motion detection

Coverage	Field of View	Color	Catalog Number
2,000 sq. ft.	360°	White	MSU2000C
1,000 sq. ft.	180°	White	MSU1000C
500 sq. ft.	180°	White	MSU500C

Note: All MSU ceiling sensors must use a MSCU series control units. See page 10 for details.



MSU2000C



**MSU1000C
MSU500C**

Passive Infrared

Outstanding long range major motion detection

Coverage	Field of View	Color	Lens Type	Catalog Number
1,500 sq. ft.	360°	White	Wide view lens	MSP1500C
450 sq. ft.	360°	White	High density lens	MSP600C

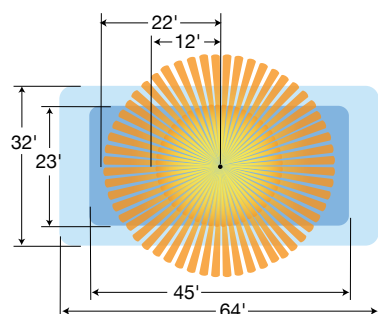
Note: All MSP ceiling sensors must use a MSCU series control units. See page 10 for details.



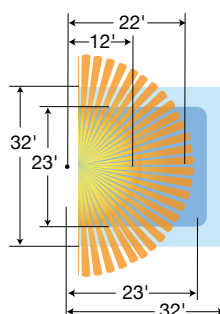
**MSP1500C
MSP600C**

Coverage Patterns

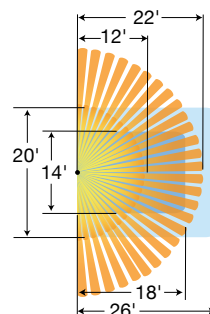
Minor Motion: ■ Ultrasonic ■ PIR **Major Motion:** ■ Ultrasonic ■ PIR



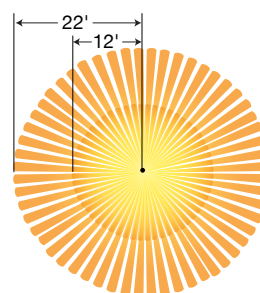
MSD2000C



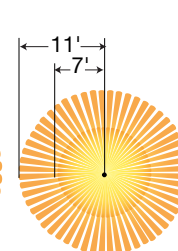
MSD1000C



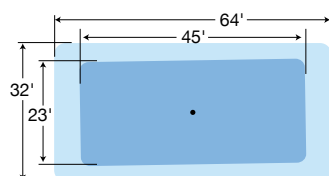
MSD500C



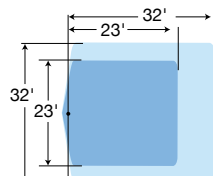
MSP1500C



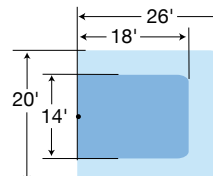
MSP600C



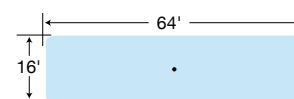
MSU2000C



MSU1000C



MSU500C



**MSU2000C
Hallway Application**

BRYANT® Occupancy Sensors

Line Voltage and Low Voltage Sensors



Line Voltage Ceiling Sensors

- Adjustable Time Delay/Sensitivity
- Self Contained Power Supply
- Reduced Installation Time
- 360° Field of View
- Connect to Existing Line Voltage Circuits
- cULus, CEC Title 24 Certified

Dual Technology Passive Infrared/Ultrasonic

Combines the excellent minor motion detection of ultrasonic with the outstanding passive infrared (PIR) long-range major motion detection

Description	Coverage	Load Rating	Color	Catalog Number
120V AC	2,000 sq. ft.	2400W	White	MSD2000L120
277V AC	2,000 sq. ft.	5000W	White	MSD2000L277



MSD2000L120



MSU1500L120



MSU2000L120



MSP1500CL

Ultrasonic

Excellent minor motion detection. 32.7kHz operating frequency

Description	Coverage	Load Rating	Color	Catalog Number
120V AC	2,000 sq. ft.	2400W	White	MSU2000L120
277V AC	2,000 sq. ft.	5000W	White	MSU2000L277
120V AC	1,500 sq. ft.	2400W	White	MSU1500L120
277V AC	1,500 sq. ft.	5000W	White	MSU1500L277

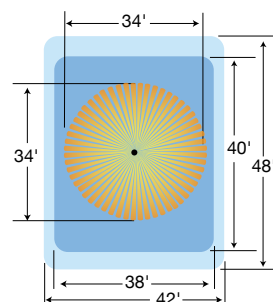
Passive Infrared (PIR)

Outstanding long range major motion detection in a compact low profile housing

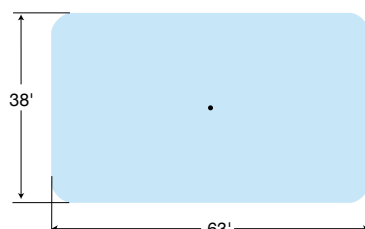
Description	Coverage	Load Rating	Color	Catalog Number
120-347V AC with photocell and isolated relay	1,500 sq. ft.	800W Inc. 1000W Fl. @ 120V AC 1800W Fl. @ 277V AC 2200W Fl. @ 347V AC	White	MSP1500CL

Coverage Patterns

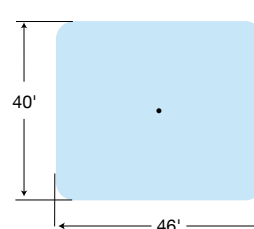
Minor Motion: ■ Ultrasonic ■ PIR Major Motion: ■ Ultrasonic ■ PIR



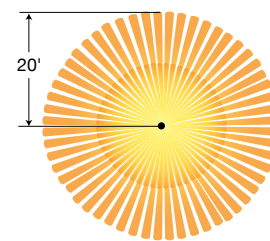
MSD2000L Series



MSU2000L Series



MSU1500L Series



MSP1500CL

BRYANT® Occupancy Sensors

Wall Mount Sensors, Control Units and Accessories



Adaptive Technology Wall Mount Sensors

- Adaptive Technology - "Install and forget" operation
- Swivel mounting bracket included for wall or ceiling mounting
- All digital sensing technology
- 24V DC, 33MA
- cULus, CEC Title 24 Certified



Dual (Ultrasonic and Passive Infrared)

Description	Coverage	Color	Catalog Number
32kHz	1,600 sq. ft.	White	MSD1600W

Passive Infrared

Description	Coverage	Color	Catalog Number
Wide angle coverage	1,600 sq. ft.	White	MSP1600W
For aisle and high bay applications	120 linear ft.	White	MSP120HB

Note: All wall mount sensors must use a MSCU series control units. See below for details.



MSD1600W



MSP1600W,
MSP120HB

Accessories

Control Unit

The MSCU provides a 24V DC power supply for 1 to 4 sensors or sensor/Add-A-Relay combinations. The control unit contains an internal relay for the control of an external lighting load. Control unit is plenum rated cULus Listed.

Description	Catalog Number
120/277V AC, 50/60 Hz for use with MSD, MSU and MSP series ceiling/wall mount sensors	MSCU



MSCU



MSAR

Add-A-Relay

Bryant MSAR Add-A-Relay contains an internal relay for control of an external lighting load. The MSAR requires a 24V DC power supply from the Bryant MSCU series control unit. The MSAR is typically used when:

- 1) It is desired to switch more than one circuit when occupancy is sensed,
- 2) The lighting load exceeds the maximum rating of the control unit.

Description	Catalog Number
For use with MSCU series control units and Bryant MSD, MSU and MSP series ceiling and wall mount sensors	MSAR



MSO4X



MSWGC

Ceiling Accessories

Description	Catalog Number
Ceiling Sensor Infrared NEMA 4X Enclosure	MSO4X
Ceiling Mount Wire Guard	MSWGC
Ceiling Mount Raceway Adapter	MSCRA

Wall Mount & Switch Accessories

Description	Catalog Number
Wall Switch Wire Guard	MSWGS
Wall Mount Wire Guard	MSWGW



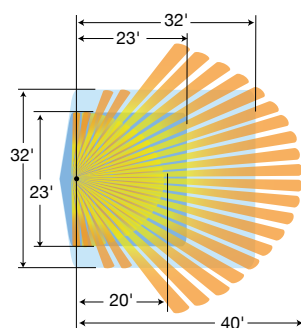
MSWGS



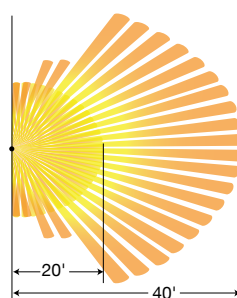
MSWGW

Coverage Patterns

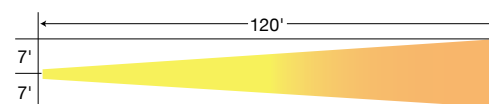
Minor Motion: ■ Ultrasonic ■ PIR Major Motion: ■ Ultrasonic ■ PIR



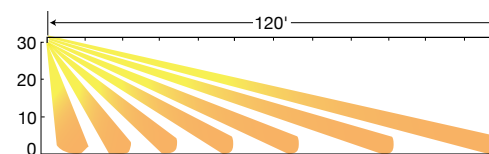
MSD1600W



MSP1600W



MSP120HB Series
Top View



Side View

BRYANT® Occupancy Sensors

Specifications and Wiring Schematics



Adaptive Dual Technology Wall Switch MSD1000 Series Wall Switches



Electrical	MSD1000 Series
Power Supply	120/277V AC, 50/60Hz
Load Capacity	
Incandescent	0 to 800 watts
120V AC Ballast	0 to 1000 watts
277V AC Ballast	0 to 1800 watts
Agency Approvals	cULus Listed
Physical	
Housing	High impact plastic (UL-94-5V)
Lens	Dual element pyrometer and 12 element cylindrical hard lens
Dimensions	Face 2.59"H x 1.73"W, 0.37"D (from wall out)
Mounting Height	42 to 54 inches above floor
Environmental	
Operating	32°F to 104°F (0°C to 40°C); 0% to 95% non-condensing relative humidity
Controls	
Time Delay	Digital, adaptive 4 to 30 minutes
Ambient Light	Adjustable ambient light override, 10 to 500 foot candles
Front Press Switch	Auto/Off
Sensitivity	Adaptive 0% to 100%
Service Switch	Air gap off
Sensing Indicator	
Passive Infrared	Red LED
Ultrasonic	Green LED

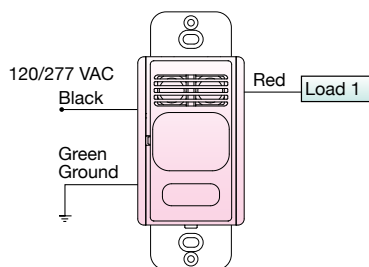
Adaptive Technology Ultrasonic and Passive Infrared Wall Switches



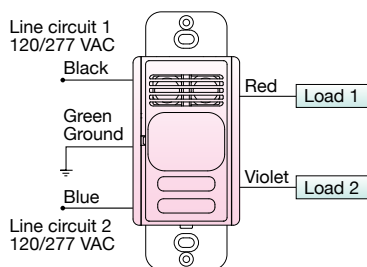
Electrical	MSU400 Series
Power Supply	120/277V AC, 50/60Hz
Load Capacity	
Incandescent	0 to 800 watts
120V AC Ballast	0 to 1000 watts
277V AC Ballast	0 to 1800 watts
Agency Approvals	cULus Listed
Physical	
Housing	High impact plastic (UL-94-5V)
Lens	Dual element pyrometer and 12 element cylindrical hard lens (MSU400 only)
Dimensions	Face 2.59"H x 1.73"W, 0.37"D (from wall out)
Mounting Height	42 to 54 inches above floor
Environmental	
Operating	32° F to 104°F (0°C to 40°C); 0% to 95% non-condensing relative humidity
Controls	
Time Delay	Digital, adaptive 4 to 30 min., 20 min. default
Ambient Light	Adjustable ambient light override, 10 to 500 foot candles
Front Press Switch	Auto/Off
Sensitivity	Adaptive 0% to 100%
Service Switch	Air gap off
Sensing Indicator	
Passive Infrared	Red LED
Ultrasonic	Green LED (MSU400 only)

Wiring Schematic for MSD1000 and MSU400 Series Wall Switch Sensors

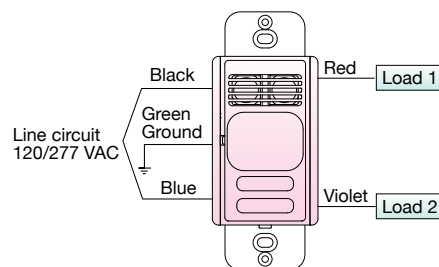
Single Circuit Wiring



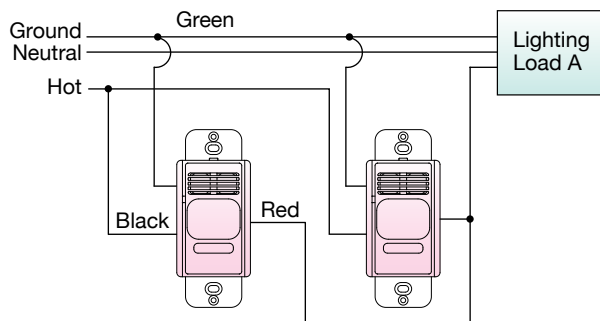
Dual Circuit Sensor, Wired for Dual Circuits



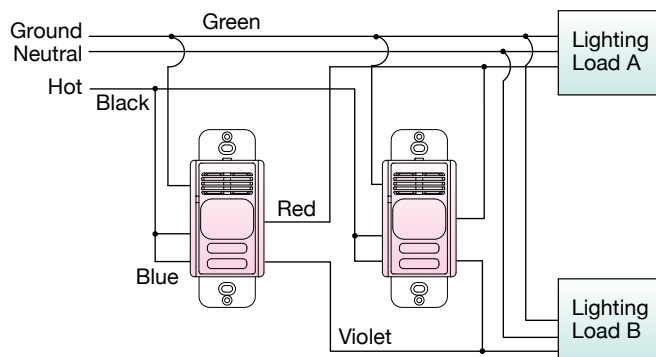
Dual Circuit Sensor, Wired for Single Circuit



Single Circuit Sensors, Wired as 3-Way Sensors*



Dual Circuit Sensors, Wired as 3-Way Sensors*



Note: * Load can not exceed the rating of one switch.
Sensor is shipped with all dip switches in the OFF position (factory default).

BRYANT® Occupancy Sensors

Specifications and Wiring Schematics



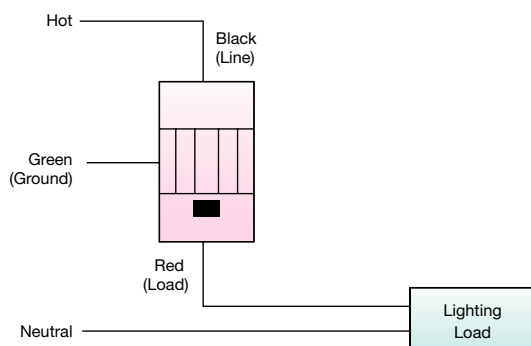
Adaptive Technology PIR Wall Switch MS1200AT and MS1200 Series Wall Switches



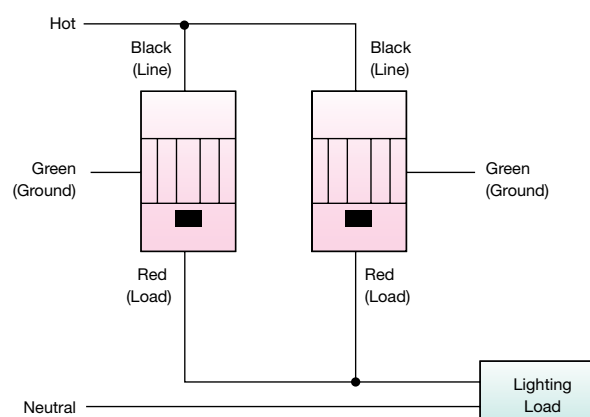
Electrical	MS1200AT Series	MS1200 Series
Power Supply	120/277V AC, 60Hz	120/277V AC, 60Hz
Load Capacity		
Incandescent	0 to 800 watts	0 to 800 watts
120V Ballast	0 to 800 watts	0 to 800 watts
277V Ballast	0 to 1200 watts	0 to 1200 watts
Agency Approvals	UL Listed, cULus Certified	UL Listed, cULus Certified
Physical	MS1200AT and MS1200 Series	
Housing	Flame retardant UL 94 V-0 ABS	
Lens	Polyethylene	
Dimensions	Face 2.61"H x 1.29"W, 0.73"D (from wall out)	
Mounting Height	42 to 54 inches above floor	
Environmental	MS1200AT and MS1200 Series	
Operating	32°F to 122°F (0°C to 50°C) with rate of change not exceeding 20°F (11°C) per hour; 20% to 90% non-condensing relative humidity	
Storage	-40°F to 150°F (-40°C to 65°C); 20% to 90% non condensing relative humidity	
Controls	MS1200AT Series	MS1200 Series
Time Delay	Digital, test (20 seconds), Adaptive 5 to 30 minutes	Manual 20 seconds to 30 minutes
Ambient Light	Digital, pushbutton, 30 to 300 foot candles	Digital, pushbutton, 30 to 300 foot candles
Front Press Switch	Auto/Momentary Off (30 minutes after last motion, switch returns to automatic mode)	Auto/Momentary Off (30 minutes after last motion, switch returns to automatic mode)
Service Switch	Auto/Off	Auto/Off
Sensing Indicator		
Passive Infrared	Red LED	Red LED

Wiring Schematic for MS1200AT and MS1200 Series Wall Switches

Normal Wiring



Sensors Wired as 3-Way Sensors*



Note: * Load can not exceed the rating of one switch.

BRYANT® Occupancy Sensors

Specifications and Wiring Schematics



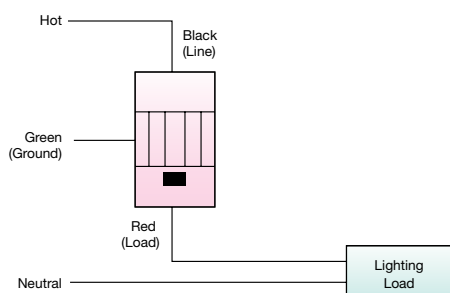
MS900120 Series, MS900277 Series, MSP2C, RMS140 Series and RMS141 Series



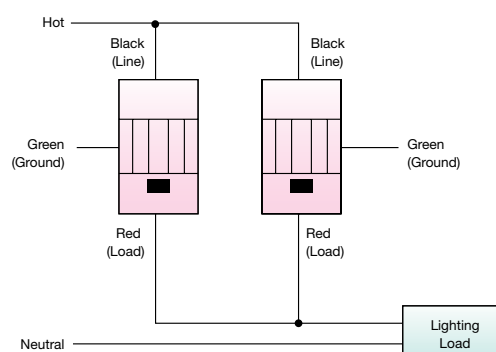
Electrical	MS900120 Series	MS900277 Series	RMS140/141 Series	MSP2C
Power Supply	120V AC, 60Hz	277V AC, 60Hz	120/277V AC, 50/60Hz, 1/6 HP	120/277V AC, 60Hz
Load Capacity				
Incandescent	0 to 800 watts	N/A	800 watts	0 to 600 watts ea circuit
120V Ballast	0 to 1000 watts	N/A	0 to 1000 watts ea fluo. circuit	0 to 1000 watts ea circuit
277V Ballast	N/A	0 to 1800 watts	0 to 1800 watts ea fluo. circuit	0 to 1800 watts ea circuit
Agency Approvals	UL Listed, cULus Certified	UL Listed, cULus Certified	UL Listed, cULus Certified	UL Listed, cULus Certified
Physical	MS900120/MS900277 Series		RMS140/141 Series	MSP2C
Housing	High-impact ABS		High-impact ABS	High-impact ABS
Lens	Polyethylene		Polyethylene	Polyethylene
Dimensions	Face 2.6"H x 1.3"W, 0.51"D (from wall out)		Face 2.6"H x 1.3"W, 0.36"D (from wall out)	Face 4.54"H x 2.79"W, 0.95"D (from wall out)
Mounting Height	42 to 54 inches above floor		42 to 54 inches above floor	42 to 54 inches above floor
Environmental	MS900120/MS900277 Series, RMS140/141 Series, and MSP2C			
Operating	32°F to 122°F (0°C to 50°C) with rate of change not exceeding 20°F (11°C) per hour; 20% to 90% non-condensing relative humidity			
Storage	-40°F to 150°F (-40°C to 65°C); 20% to 90% noncondensing relative humidity			
Controls	MS900120/MS900277 and RMS140/141 Series			MSP2C
Time Delay	30 seconds to 30 minutes			30 seconds to 30 minutes
Switch	Auto/Off (Front Press) - RMS140 (Manual On-Off)			Auto/Off (Front Rocker)
Manual Override Bypass	N/A			Override ON key provided
Sensing Indicator	MS900120/MS900277 Series, RMS140/141 Series and MSP2C			
Passive Infrared	Red LED			

Wiring Schematic for MS900120/MS900277 and RMS Series Wall Switches

Normal Wiring

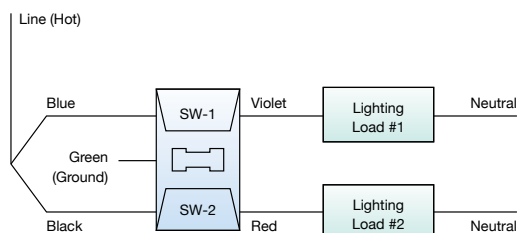


Sensors Wired as 3-Way Sensors*

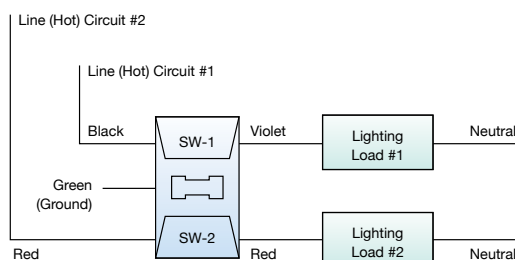


Wiring Schematic for MSP2C Wall Switch

Dual Level Switching of a Single Circuit



Dual Level Switching of Two Circuits



BRYANT® Occupancy Sensors

Specifications for Ceiling and Wall Mount Sensors



MSD, MSU, MSP Series Ceiling and Wall Mount Sensors

Electrical

Power Requirements 24V DC nominal, 33mA from Bryant MSCU series control unit

Isolated Relay (sensors with RP suffix) Normally open and normally closed
Terminals available

Agency Approvals UL Listed

Physical

Ceiling Sensors

Wall Mount Sensors

Housing Flame retardant UL 94 V-0 ABS

Flame retardant UL 94 V-0 ABS

Lens Polyethylene

Polyethylene

Dimensions 1.5"H x 4.5"D

6"H x 2"W x 1.5"D

Color Office white

Office white

Mounting Height 8 to 12 feet

8 to 12 feet, 8 to 30 feet (ATP120HB series)

Environmental

Operating 32°F to 104°F (0°C to 40°C) with rate of change not exceeding 20°F (11°C) per hour;
0% to 95% non condensing relative humidity

Storage -20°F to 150°F (-29°C to 65°C); 0% to 95% non-condensing relative humidity

Controls

Time Delay Test (8 seconds), adaptive 8 to 40 minutes

Ambient Light 1 to 1000 foot candles

Sensitivity Adaptive 0 to 100%

Sensing Indicators

Ultrasonic (MSD and MSU Series) Green LED

Passive Infrared (MSD and MSP Series) Red LED



MSHB21U, MSHB22U High Bay Specifications

Electrical

Power Requirements Line voltage units: 120/277/347V AC, 60Hz

Load Capacity 120V AC: 0-800W ballast or tungsten
277V AC: 0-1,200W ballast
347V AC: 0-1,500W ballast
¼-HP motor load

Agency Approvals ETL, Conforms to UL STD 916, Certified to CAN/USA STD 22.2 No. 61010-1-04 and Title 24 Compliant

Physical

Casing High-impact injection-molded plastic

Size 4.4 inch x 3.6 inch x 2.0 inch

Weight 7 oz.

Color White

Mounting Fixture mount

Environmental

Operating Indoor use only
32°F to 104°F (0°C to 40°C) with rate of change not exceeding 20°F (11°C) per hour;
0% to 95% noncondensing relative humidity

Storage -20°F to 150°F (-29°C to 65°C); 0% to 95% non-condensing relative humidity

Controls

Time Delay
Primary: 8-second test mode – 4, 8, 16 and 30 minute time-outs
Secondary: Can be disabled – 30, 60 and 90 minute time-outs



MSCU Control Unit and MSAR Add-A-Relay

Electrical

MSCU

MSAR

Power Supply 120 to 277V AC, 50/60Hz

N/A

Power Output 24V DC, 150mA

N/A

Power Input N/A

24V DC nominal, 33mA from Bryant MSCU series control unit

Load Capacity

Incandescent 0 to 1800 watts
120V Ballast 0 to 2400 watts
230V Ballast N/A
277V Ballast 0 to 5540 watts
347V Ballast N/A

0 to 1800 watts
0 to 2400 watts
0 to 3680 watts
0 to 5540 watts
0 to 5205 watts

MS Sensor/MSAR Capacity 1 to 4 combined

N/A

Agency Approvals UL Listed, cULus Certified

UL Listed

Physical

Housing Flame retardant UL 94-5V thermoplastic

Dimensions 3.69"L x 2.33"W x 1.36"H

Color Black

Environmental

Operating 32°F to 104°F (0°C to 40°C); 0% to 90% non-condensing relative humidity

Storage -20°F to 150°F (-29°C to 65°C); 0% to 90% non-condensing relative humidity



BRYANT® Occupancy Sensors

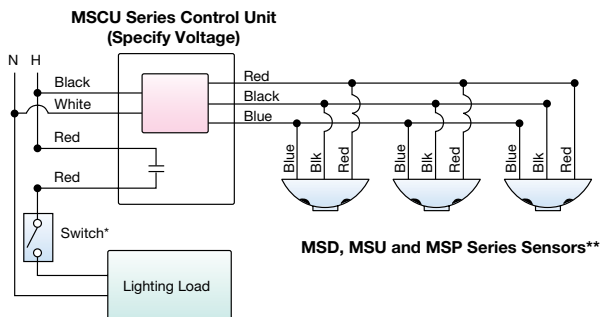
Ceiling and Wall Mount Sensors Wiring Schematics



Adaptive Dual Technology, Ultrasonic, and Passive Infrared Ceiling and Wall Mount Sensors MSD, MSU and MSP Series Ceiling and Wall Mount Sensors

Single Circuit Application:

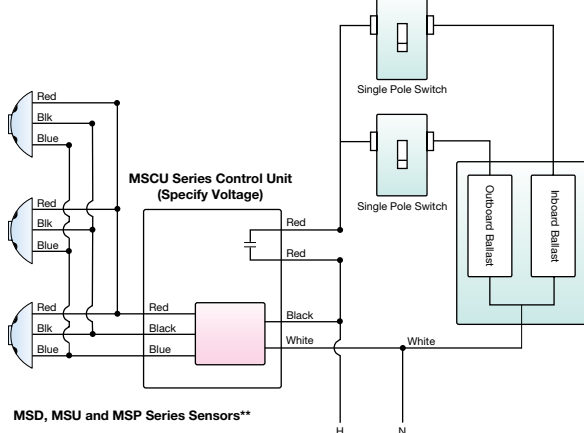
1 to 4 sensors wired to control unit with optional override off switch.



* Optional Override Off Switch

Single Circuit, Dual Level Switching Application:

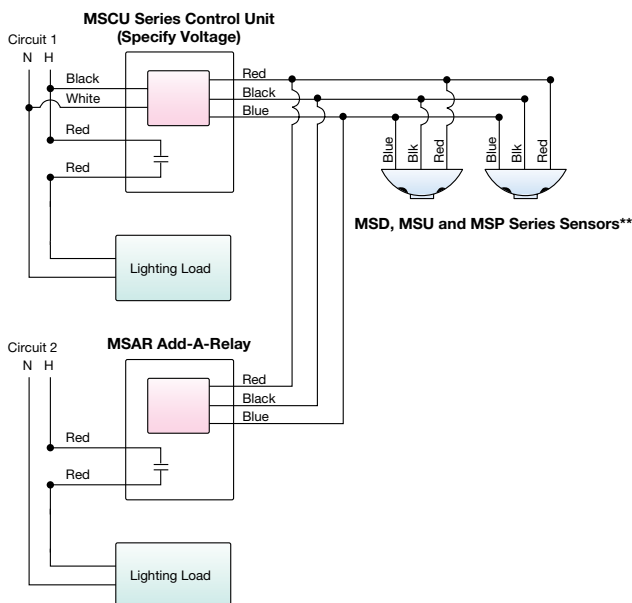
1 to 4 sensors wired to control unit with optional override off switches.



MSD, MSU and MSP Series Sensors**

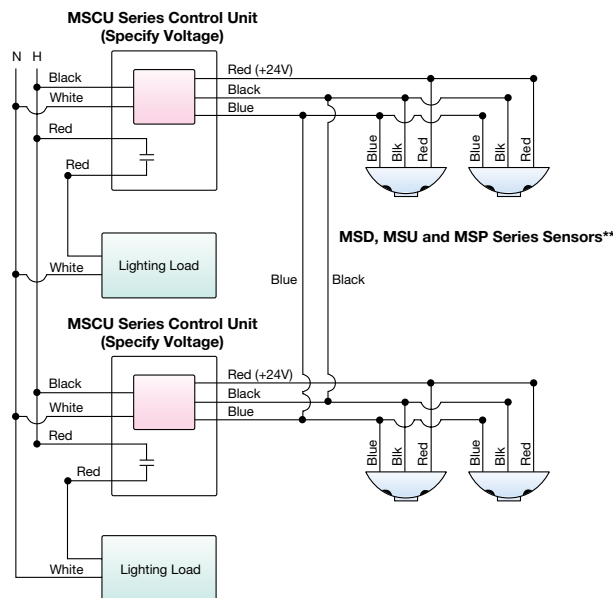
Two Circuit Application:

1 to 4 sensors wired to control unit and Add-A-Relay (control unit switches circuit 1, Add-A-Relay switches circuit 2).



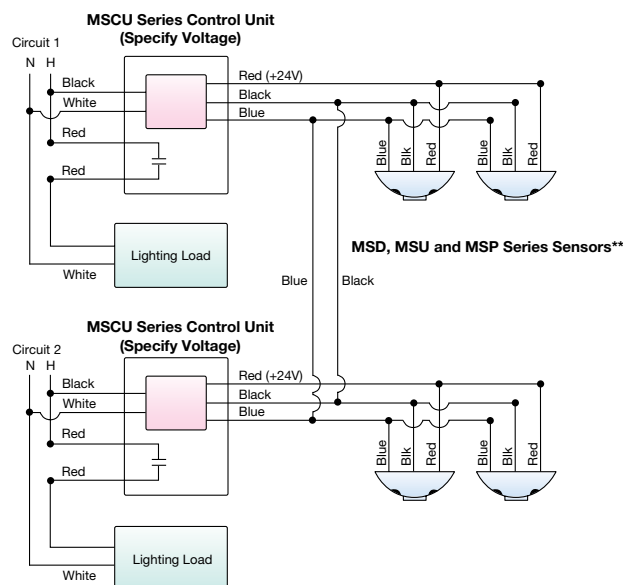
Single Circuit Application:

Two control units wired in parallel to operate 5 to 8 sensors in a single zone. Maximum 4 sensors per control unit any sensor will activate lighting.



Two Circuit Application:

Two control units wired in two circuits to operate 2 to 8 sensors in a single zone. Maximum 4 sensors per control unit any sensor will activate both lighting loads.



** For wiring sensors with isolated relay and photocell option (models with "RP" suffix): Photocell Option: Cap off Blue sensor wire. Connect Grey sensor wire to Blue control unit wire. Isolated Relay Option: Common-Blue/White wire, Normally Closed-Black/White wire, Normally Open-Yellow/White wire.



Online tools to calculate energy savings

See the impact sensors can have on your electric bill by entering the data to estimate savings and return on investment for your sensor project.



Comprehensive design assistance for deploying occupancy sensors

Contact our highly knowledgeable technical specification professionals for layout assistance based upon your building blueprints; our technical service group is always available to discuss applications and troubleshoot any issues that may arise.



Selection charts and guides for fast and easy product selection

Use our product selection guides and charts to help choose the right Bryant occupancy sensor and technology for different spaces and environments.



Educational videos to gain more knowledge about occupancy sensors

Gain a better understanding of occupancy sensor technology, discover where they save energy, and learn how to deploy them in specific spaces and room types; these educational videos can be viewed anywhere, anytime.

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